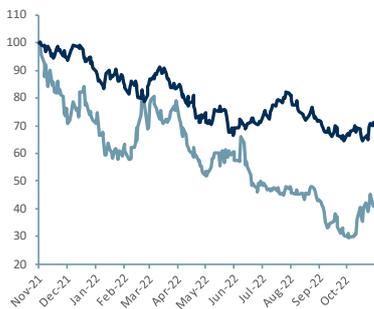


# POST-RESULTS

## 3Q22A

## VALUE RANGE

USD 5.26 – 5.53



PPTA (lighter line) Nasdaq market vs price relative

### Wednesday, 16 November 2022

Intrinsic Price (USD)	5.40
Value Range Low (USD)	5.26
Value Range High (USD)	5.53
Implied MCAP (m)	356.06
Implied EV (m)	320.09
XNAS	PPTA
TSX	PPTA
Financial YE	31-Dec
Currency	USD

#### Business Activity

Mining E&P

#### Key Metrics

Close Price (USD)	2.38
MCAP (m)	149.91
Net Debt (Cash) (m)	-36.21
EV (m)	113.70
52 Wk Hi	5.94
52 Wk Lo	1.69

#### Key Ratios

(Net Cash) / Shareholder Equity %	-24.15%
FX Rate USD/USD	1.00

#### Mining Sector Research

Nasdaq Market Index

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## Perpetua Resources Corp

### The USFS' Preferred Alternative (and Q3 Beat)

Perpetua Resources Corp. (Nasdaq: PPTA; TSX: PPTA) is an Idaho based (Stibnite jurisdiction), gold-antimony-silver (Au-Sb-Ag) junior explorer/producer. 3Q22A results have evidenced steady state expenses. Our analysis identifies PPTA as a US national strategic asset (Sb) and a best-in-class gold asset. On Oct 28, 2022, the SDEIS was published for a 75-day public comment period. In the SDEIS, the USFS identifies PPTA's Stibnite Gold Project as the 'Preferred Alternative'. PPTA is a sustainability/ESG leader amongst junior miners (long run lower WACC). PPTA holds the only economic antimony (Sb) reserve in the US and is positioned to be the only domestically mined source of Sb (supplying ~35% of domestic demand). The US is heavily reliant on Sb for defense and ammunition.

- Completion of summer 2022 water quality improvement program;
- DoD \$200k grant for PPTA antimony Mil-Spec study;
- Au: Proven & Probable Reserves at 4.8 Moz gold (Au) @ 1.43 g/t;
- Sb: Proven & Probable Reserves 148 Mlbs at 0.06% in 104 Mt;
- Ambri Inc. partnership for antimony-based liquid battery.

ACF est. \$ (m)	Revenue	EBITDA	EPS (diluted)	CPS	CPS (diluted)
2027E	589.5	396.9	4.37	6.30	6.02
2031E	1,055.1	808.1	6.85	12.83	12.25

Multiples	EV/ Revenue	EV/ EBITDA	P/ EPS (diluted)	P/ CPS	P/ CPS (diluted)
2027E	0.2x	0.29x	0.55x	0.38x	0.40x
2031E	0.1x	0.1x	0.3x	0.2x	0.2x

## Investment Case

Share Price History	No. of Shares in issue	Fully diluted
NoSh (m)	62.99	65.95
Implied Intrinsic Price	5.65	5.40
Value Range Low	5.37	5.26
Value Range High	5.94	5.53
XNAS	PPTA	
Financial YE	31-Dec	
Reporting Currency	USD	

NoSh (m)		62.99
NoSh (m) expected dilution (Exp D)		62.99
NoSh (m) full dilution (FD)		65.95

Key Metrics	\$	adj.
MCAP (m)	149.9	149.9
Net Debt (Cash) (m)	(36.2)	(36.2)
EV (m)	113.7	113.7
52 Wk Hi	5.94	5.94
52 Wk Lo	1.69	1.69
Free Float	26%	26%

*Key Metrics FCF adj.	2027E	2031E
CPS (USD)	6.30	12.8
CPS (Exp D) (USD)	6.30	12.8
CPS (FD) (USD)	6.02	12.3
P/CPS	0.38x	0.19x
P/CPS (Exp D)	0.38x	0.19x
P/CPS (FD)	0.40x	0.19x

Perpetua Resources Corp, an ESG/sustainability focussed junior miner is redeveloping the Stibnite Gold Project (SGP), Idaho, previously abandoned after 100+ years of mining activity. PPTA's SGP boasts high grade gold @ 2.2 g/t (est. years 1-4 with M + I resource of 6 Moz Au @ 1.42 g/t). The 2020 feasibility study (FS) suggests superior economics with a post-tax NPV of \$1.86bn (assumptions: 5% discount rate, gold \$1,850/oz) and will be the only domestic mined source of the critical mineral Sb (M+I 206Mlbs @0.07%).

**Top tier gold mine** – PPTA completed a feasibility study (FS) on the Stibnite Gold Project in Dec 2020. The FS recorded Proven & Probable Reserves at 4.8 Moz gold (Au) @ 1.43 g/t, Measure and Indicated (M + I) at 6.0 Moz @ 1.42 g/t. **In contrast, we conservatively model Proven & Probable at Au 4.25 Moz by reducing grade assumptions by 5% as a margin of error vs. the FS.**

The FS provides evidence that Stibnite is one of the largest independent gold projects in the US. Stibnite **could become the second largest gold producing mine in the US** with an average annual production of 463 Koz years 1-4. **We conservatively model average annual production of 457 Koz years 1-4.** The project's exceptional grade and low strip ratio place it in the lowest quartile of the mining cost curve (AISC cost at \$438/oz in years 1-4).

The FS suggests robust project economics of 22% IRR at \$1,600/oz gold and ~28% IRR at \$1,850/oz gold. We assume a highly aggressive >12.4% WACC and a **\$1,524 t/oz gold price**, which is at the mid-point between the long run (17 years) median gold price and the **current spot price of ~\$1,650 t/oz.**

Our value range is \$5.26 to \$5.53 p/s suggesting 163-177% upside. The stock is up ~23% since our [initiation note of Sep 28, 2022](#).

**Gold – PPTA's superior project economics:** The SGP, is located along the eastern edge of the Idaho Batholith, within the Central Idaho Mineral Belt. There are 3 primary deposits mined as 3 separate open pits and an additional 3m MT of historical tailings at >1.0 gpt.

**Antimony (Sb) - PPTA could reduce US critical minerals supply chain risk:** PPTA plans to supply ~35% of US Sb demand. *Antimony is a critical mineral used in renewables, LDES, defense (ammunition et al), and fire-retardant materials.* Currently, China and Russia dominate global antimony supply, controlling more than 75% of production. PPTA has national strategic value in its ability to become the sole US antimony domestic source of mined production.

**Defense** - On Sept 12, 2022, Perpetua announced a \$200k grant by the US Department of Defense (DoD) (through Defense Logistics Agency (DLA)) for two study programs - each to be completed over 12 months. The project will evaluate PPTA's military-grade antimony trisulfide resources to see if they meet military specifications (Mil-Spec) and will support the US' re-introduction of domestic antimony production to reduce reliance on foreign supply chains.

**Renewables** - Antimony's unique properties make the semi metallic element a key resource in renewable energy (solar panels and wind turbines).

**Long Duration Energy Storage (LDES)** - PPTA's partner Ambri Inc. is rapidly commercializing an Sb-based liquid battery suitable for long-term energy storage. **Ambri's** use of antimony delivers a low-cost technology and a system that avoids degradation by fully consuming the negative electrode.

**Healthcare** - Although antimony (Sb) is currently used sparingly in medicine, it has beneficial effects and we expect healthcare AI iterative learning techniques to reveal more uses. Today Sb compounds (meglumine antimonate and sodium stibogluconate) are the principal medications for treating leishmaniasis (kala-azar), caused by a protozoan parasite.

**ESG and Sustainability impact on valuation** - PPTA is a leading exemplar within the junior mining space for ESG/Sustainability. The emphasis on ESG will lower its cost of capital through reduced risk and greater competition from investors. An ESG culture will improve operational margins through better monitored process and mindset. As we approach production this long-term investment will come into play, enhancing our valuation range.

**Since our [initiation note](#)** PPTA completed its water quality improvements at Stibnite improving Hennessy Creek diversion channel to prevent leakage, removing legacy waste from Defense Mineral Exploration Administration (DMEA) waste rock dump from along the East Fork of the South Fork of the Salmon River (EFSFSR), and creating a lined diversion for surface water around Smelter Flats.

## Catalysts

Final EIS 2H23E; Final permitting decision end 23E/beginning 24E; Rising gold price; Rising antimony demand / supply tightening (ammunition usage and innovation (EVs / clean energy)); Successful Mil-Spec results from DoD project.

## 3Q22A Results Highlights – it’s a Beat

*Advance its Stibnite project to commercial production in 2027E.*

**Perpetua Resources: strategy is to advance its Stibnite project to commercial production in 2027E.** On 28 Oct 2022, the United States Forest Service (USFS) released PPTA’s Supplemental Draft Environmental Impact Statement (SDEIS) and has identified the Stibnite Gold Project’s “Modified Mine Plan” as the Preferred Alternative.

*Significant milestone - United States Forest Service (USFS) released PPTA’s Supplemental Draft Environmental Impact Statement (SDEIS) and has identified the Stibnite Gold Project’s “Modified Mine Plan” as the Preferred Alternative.*

PPTA 3Q22A highlights:

- No reportable environmental spills and zero lost time incidents;
- Completion of summer 2022 water quality improvement program: stream diversion and removal of Defense Minerals Exploration Administration legacy waste rock dump from East Fork of the South Fork of the Salmon River;
- Extension to stay on the Clean Water Act until January 31, 2023 (ongoing discussions with Nex Perce Tribe);
- Department of Defense antimony Mil-Spec study program ongoing.

In our [3Q22E pre-results note](#) we estimated that Perpetua’s expenses would hit a run-rate of \$6.6m/quarter, expected to continue through to 2Q23E. 3Q22A actual expenses came in at \$5.9m as mining relating activities begin to shut down for the winter. We expect 4Q22E expenses to come in below our \$6.6m quarterly run rate.

In exhibit 1 we highlight the delta between ACF forecasts for 3Q22E and PPTA actuals for 3Q22A. Overall, PPTA beat our operational estimates by ~7-10% the delta for ACF.

Exhibit 1: **3Q22A Perpetua Resources operating metrics**

IS \$ (m)	3Q21A	4Q21A	1Q22A	2Q22A	3Q22A
<b>Revs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total expenses</b>	<b>-6.95</b>	<b>-10.5</b>	<b>-6.25</b>	<b>-6.37</b>	<b>-5.92</b>
Forecast Delta	0	0	0	0	0.68
Delta %	0.0%	0.0%	0.0%	0.0%	10.26%
<b>EBITDA</b>	<b>-6.95</b>	<b>-10.49</b>	<b>-6.25</b>	<b>-6.37</b>	<b>-5.92</b>
Forecast Delta	0	0	0	0	0.68
Delta %	0.0%	0.0%	0.0%	0.0%	10.26%
<b>EBIT</b>	<b>-7.00</b>	<b>-10.60</b>	<b>-6.26</b>	<b>-6.39</b>	<b>-5.94</b>
Forecast Delta	0	0	0	0	0.67
Delta %	0.0%	0.0%	0.0%	0.0%	10.16%
<b>EBT</b>	<b>-6.52</b>	<b>-10.29</b>	<b>-6.24</b>	<b>-6.26</b>	<b>-5.75</b>
Forecast Delta	0.00	0.00	0.00	0.00	0.50
Delta %	0.0%	0.0%	0.0%	0.0%	7.93%
<b>NI</b>	<b>-6.52</b>	<b>-10.29</b>	<b>-6.24</b>	<b>-6.26</b>	<b>-5.75</b>
Forecast Delta	0	0	0	0	0.50
Delta %	0.0%	0.0%	0.0%	0.0%	7.93%
<b>EPS</b>	<b>-0.11</b>	<b>-0.16</b>	<b>-0.10</b>	<b>-0.11</b>	<b>-0.0914</b>
Forecast Delta	0.0000	0.0000	0.0000	0.0000	0.0078
Delta %	0.0%	0.0%	0.0%	0.0%	7.91%
<b>EPS fully diluted</b>	<b>-0.11</b>	<b>-0.16</b>	<b>-0.10</b>	<b>-0.11</b>	<b>-0.0873</b>
Forecast Delta	0.0000	0.0000	0.0000	0.0000	0.0075
Delta %	0.0%	0.0%	0.0%	0.0%	7.96%

Source: ACF Research Estimates; Companies reports.

*Significant milestone - United States Forest Service (USFS) released PPTA’s Supplemental Draft Environmental Impact Statement (SDEIS) and has identified the Stibnite Gold Project’s “Modified Mine Plan” as the Preferred Alternative.*

## SDEIS Milestone Publication - Key Factors

*Significant milestone - United States Forest Service (USFS) released PPTA's Supplemental Draft Environmental Impact Statement (SDEIS) and has identified the Stibnite Gold Project's "Modified Mine Plan" as the Preferred Alternative*

The **publication of the Supplemental Draft Environment Statement (SDEIS) on Oct 28, 2022** and the Stibnite Gold Project being identified as a **Preferred Alternative** by the USFS, are major milestones for Perpetua Resources - further validating PPTA as an environmental leader amongst its peers (i.e. junior mining companies.)

In December 2020, Perpetua Resources submitted a refined proposed action (SDEIS) to the United States Forest Services' Draft Environmental Impact Statement (DEIS) originally released in August 2022.

*The SDEIS considers that PPTA's involvement will leave the mine site in a better environmental condition than it is today.*

The SDEIS proposes modifications to Perpetua's mine plan – The Modified Mine Plan – ensures a full analysis of the improved project. In the SDEIS, the USFS highlights the positive environmental outcomes that the Stibnite Gold Project can provide to the current mine site over a six-year evaluation (it compares the environmental impacts of the plan versus leaving the site as it stands today).

As a result, the USFS has identified Perpetua's Stibnite Gold Project as the Preferred Alternative. A Preferred Alternative under the National Environmental Policy Act (NEPA) is the "favoured course of action by the lead agency(s) [USFS in this case] during the environmental review process".

The Modified Mine Plan includes the following:

- Water management and activities to reduce the need for long-term water treatment requirements;
- Measures to manage stream temperature;
- Measures to reduce potential impacts of access, transportation and hazardous materials found on Johnson Creek and the East Fork of the South Fork of the Salmon River.

The SDEIS public review period lasts 75 days from the date of publication – expiring on January 10, 2023. Once comments have been submitted and analysed, according to management, the USFS will provide a schedule update that will include the timeline for the Final Environmental Impact Statement (FEIS), draft Record of Decision (ROD) and final ROD.

## Notes [Intentionally Blank]

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